A. AMENDMENTS TO CLAIMS

Please add new Claims 17-24 and amend the claims as indicated hereinafter.

1.   1. (CURRENTLY AMENDED) A method of debugging a first software program, the

2.   method comprising the steps of:

3.   preserving a memory state of a preserved portion of the first software program;

4.   dynamically linking a second software program to the first software program without

5.   deallocating from volatile memory the first software program;

6.   executing the second software program; and

7.   ~~when~~ if execution of the second software program would otherwise cause

8.   modification to targeted data that is in the preserved portion of the first

9.   software program, then making a copy of the targeted <u>data</u> and modifying the

10.   copy <u>of the targeted data</u> to generate a modified copy of the targeted data

11.   without modifying the targeted data that is in the preserved portion of the first

12.   software program.

1.   2. (ORIGINAL) The method of Claim 1, further comprising the steps of:

2.   publishing in the preserved portion of the first software program a corresponding

3.   symbolic name associated with the second software program; and

4.   multiple users accessing the second software program is accessed through the

5.   corresponding symbolic name.

1.   3. (ORIGINAL) The method of Claim 1, wherein the first software program is a

2.   database system.

4. (ORIGINAL) The method of Claim 1, wherein the step of preserving a memory

state further includes the step of suspending a failed application of the database

system.

5. (ORIGINAL) The method of Claim 1, further including the step of, in response to

a subsequent attempt to access the targeted data in the preserved portion of the

first software program, accessing the modified copy of the targeted data.

6. (ORIGINAL) The method of Claim 5, wherein the steps of dynamically linking

and executing are initiated by a particular user, and wherein the step of accessing

the modified copy occurs only if that particular user initiates the subsequent

attempt to access the targeted data.

7. (ORIGINAL) The method of Claim 1, wherein:

the steps of dynamically linking and executing the second software program are

performed by a first user;

the modified copy is a first modified copy of the targeted data; and

the method further comprises the steps of:

after the first modified copy has been created for the first user, a second user

executing performing an operation which, when executed, would cause

modification to the targeted data in the preserved portion; and

9   performing the operation by making a second copy of the targeted data and

10   modifying the second copy to generate a second modified copy of the

11   targeted data, the second modified copy being separate from the first

12   modified copy and from the preserved portion.

1   8.   (ORIGINAL) The method of Claim 7, further comprising the steps of:

2   after the first and second modified copies have been created for the first user and

3   second user respectively, a third user dynamically linking and executing a

4   third software program which, when executed, would cause modification to

5   the targeted data in the preserved portion; and

6   making a third copy of the targeted data and modifying the third copy to generate a

7   third modified copy, the third modified copy being separate from the first

8   modified copy, from the second modified copy, and from the preserved

9   portion.

1   9.   (CURRENTLY AMENDED) A computer-readable medium bearing instructions for

2   debugging a first software program, the instructions arranged, when executed by one

3   or more processors, to cause the one or more processors to perform the steps of:

4   preserving a memory state of a preserved portion of the first software program;

5   dynamically linking a second software program to the first software program without

6   deallocating from volatile memory the first software program;

7   executing the second software program; and

~~when~~ if execution of the second software program would otherwise cause

modification to targeted data that is in the preserved portion of the first

10   software program, <u>then</u> making a copy of the targeted <u>data</u> and modifying the

11   copy <u>of the targeted data</u> to generate a modified copy of the targeted data

12   without modifying the targeted data that is in the preserved portion of the first

13   software program.

1   10.   (ORIGINAL) The computer-readable medium of Claim 9, further comprising the

2   steps of:

3   publishing in the preserved portion of the first software program a corresponding

4   symbolic name associated with the second software program; and

5   multiple users accessing the second software program is accessed through the

6   corresponding symbolic name.

1   11.   (ORIGINAL) The computer-readable medium of Claim 9, wherein the first software

2   program is a database system.

1   12.   (ORIGINAL) The computer-readable medium of Claim 9, wherein the step of

2   preserving a memory state further includes the step of suspending a failed

3   application of the database system.

1   13.   (ORIGINAL) The computer-readable medium of Claim 9, further including the

2   step of, in response to a subsequent attempt to access the targeted data in the

preserved portion of the first software program, accessing the modified copy of the targeted data.

14. (ORIGINAL) The computer-readable medium of Claim 13, wherein the steps of dynamically linking and executing are initiated by a particular user, and wherein the step of accessing the modified copy occurs only if that particular user initiates the subsequent attempt to access the targeted data.

15. (ORIGINAL) The computer-readable medium of Claim 9, wherein:

the steps of dynamically linking and executing the second software program are

performed by a first user;

the modified copy is a first modified copy of the targeted data; and

the method further comprises the steps of:

after the first modified copy has been created for the first user, a second user

executing performing an operation which, when executed, would cause

modification to the targeted data in the preserved portion; and

performing the operation by making a second copy of the targeted data and

modifying the second copy to generate a second modified copy of the

targeted data, the second modified copy being separate from the first

modified copy and from the preserved portion.

16. (ORIGINAL) The computer-readable medium of Claim 15, further comprising the

steps of:

4   after the first and second modified copies have been created for the first user and

5   second user respectively, a third user dynamically linking and executing a

6   third software program which, when executed, would cause modification to

7   the targeted data in the preserved portion; and

8   making a third copy of the targeted data and modifying the third copy to generate a

9   third modified copy, the third modified copy being separate from the first

10   modified copy, from the second modified copy, and from the preserved

11   portion.

1   17.   (NEW) An apparatus for debugging a first software program, wherein the apparatus

2   comprises a memory storing one or more instructions which, when executed by one

3   or more processors, cause the one or more processors to perform the steps of:

4   preserving a memory state of a preserved portion of the first software program;

5   dynamically linking a second software program to the first software program without

6   deallocating from volatile memory the first software program;

7   executing the second software program; and

8   if execution of the second software program would otherwise cause modification to

9   targeted data that is in the preserved portion of the first software program,

10   then making a copy of the targeted data and modifying the copy of the

11   targeted data to generate a modified copy of the targeted data without

12   modifying the targeted data that is in the preserved portion of the first

13   software program.

18. (NEW) The computer-readable medium of Claim 17, wherein the memory includes one or more additional instructions which, when executed by the one or more processors, cause the one or more processors to perform the additional steps of:
publishing in the preserved portion of the first software program a corresponding symbolic name associated with the second software program; and
multiple users accessing the second software program is accessed through the corresponding symbolic name.

19. (NEW) The computer-readable medium of Claim 17, wherein the first software program is a database system.

20. (NEW) The computer-readable medium of Claim 17, wherein the step of preserving a memory state further includes the step of suspending a failed application of the database system.

21. (NEW) The computer-readable medium of Claim 17, wherein the memory includes one or more additional instructions which, when executed by the one or more processors, cause the one or more processors to perform the additional step of, in response to a subsequent attempt to access the targeted data in the preserved portion of the first software program, accessing the modified copy of the targeted data.

22. (NEW) The computer-readable medium of Claim 21, wherein the steps of

dynamically linking and executing are initiated by a particular user, and wherein

the step of accessing the modified copy occurs only if that particular user initiates

the subsequent attempt to access the targeted data.

23. (NEW) The computer-readable medium of Claim 17, wherein:

the steps of dynamically linking and executing the second software program are

performed by a first user;

the modified copy is a first modified copy of the targeted data; and

wherein the memory includes one or more additional instructions which, when

executed by the one or more processors, cause the one or more processors to

perform the additional steps of:

after the first modified copy has been created for the first user, a second user

executing performing an operation which, when executed, would cause

modification to the targeted data in the preserved portion; and

performing the operation by making a second copy of the targeted data and

modifying the second copy to generate a second modified copy of the

targeted data, the second modified copy being separate from the first

modified copy and from the preserved portion.

24. (NEW) The computer-readable medium of Claim 23, wherein the memory includes

one or more additional instructions which, when executed by the one or more

processors, cause the one or more processors to perform the additional steps of:

4   after the first and second modified copies have been created for the first user and

5   second user respectively, a third user dynamically linking and executing a

6   third software program which, when executed, would cause modification to

7   the targeted data in the preserved portion; and

8   making a third copy of the targeted data and modifying the third copy to generate a

9   third modified copy, the third modified copy being separate from the first

10   modified copy, from the second modified copy, and from the preserved

11   portion.